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(54) Title of the invention: Colour television with teletext receiving function
(21) Application number: 62-224415
(22) Date of filing: 62- 8.09.1987
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(71) Applicant: SEIKO EPSON CORP
(74) Responsible agent: Mogami Tsutome

DEVICE SPECIFICATIONS

1. Name of the device

COLOUR TELEVISION WITH TELETEXT RECEIVING FUNCTON

2. Claims:

(1) a) within the Colour television with teletext receiving function:

b) second power source to always supply a power source to the teletext receiving device including teletext signal processing circuit, tuner and intermediate frequency processing circuit,

c) first power source to supply the power source to a screen display, including sound signal processing circuit, chrominance signal processing circuit and synchronization deflection circuit at the time of a screen displaying.

3. Detailed description of the device

(Industrial advantages)

The titled device is on to improve the power source supplying system in colour television with teletext function.

(Invention summary)

The titled invention is applied within the colour television with teletext receiving function, using the first and the second power sources separately at the time of screen displaying, with the second power source making the teletext receiving device with a page memory function operate at all times and always fetching the contents of a

desired program even when a first power is not turned on, immediately calling the desired page when the first power source is inputted.

(Conventional technology)

Teletext is a multileveled digital transmission of different program pages; normally it takes about 20 minutes to transmit all the program pages. Consequently, 20 minutes, which are needed for operator could activate the desired page of the desired program, is considered to be a rather long period. In this case, traditional devices are supplemented with page memory, as it is indicated in graph 1. After the power source is inputted, on by one the entry programs content is being stored in the page memory, and it is supposed that pressing the page output button will allow the operator to quickly recall the desired program pages from the memory. #1 in graph 1 is wave converting circuit, which prevents video signal ghosts, and #2 is synchronizing and reproducing circuit. After the signal has been formed, it is being selected in a code selecting circuit #3, and then inputted into buffer memory #6. #4 is Program ROM, #6 operational ROM, #7 is a BEST system error correction circuit, #8 is the page memory, which enables to quickly recall the desired program page. The signal process is provided by the commands of 8-bit CPU #9, and outputted through the display control circuit #10 in RGB signal.

Graph 2 shows us the Colour television block, which includes the teletext signal processing circuit that has the same structure as graph 1, and also indicates the line of power supply. #11 in graph 2 is UHR, VHF receiving tuner #12 is intermediate frequency processing circuit, which outputs the video signal along with the sound signal, #13 is the sound signal processing circuit, #14 is chrominance signal processing circuit, which converts video signal in RGB signal, and #15 is synchronization deflection circuit. Next, #16 is teletext signal processing circuit with the page memory function, #17 is the power source of the mentioned circuit, #18 is speaker, and #19 is CRT. Dotted line is the line of power supply, so, all circuit work on a one power supply system.

(Problems resolved by the titled invention)

Nevertheless, in the traditional technologies, the operator has to wait up to 20 minutes to call on the desired program page, even when the power source has been already inputted, because the fetching of page data into page memory is provided only after the power source is switched on. Therefore, the titled device, which intends to solve

this problem, makes it possible for the operator to call on the desired program page immediately after turning on the power source.

(Means of solving the problem)

The titled invention, within the Color television with teletext receiving function, has such peculiar features as second power source, which constantly supplies the teletext receiving device including teletext signal processing circuit, tuner and intermediate frequency circuit; and the first power source, which supplies the sound signal processing circuit and display device including the chrominance processing circuit during the time of displaying.

(Implementation example)

Graph 3 indicates the color television block with teletext receiving function and also the line of power supply. #20 of graph 3 is UHF, VHF receiving tuner, #21 is intermediate frequency processing circuit, which outputs the video signal along with sound signal, #22 is sound signal processing circuit, #23 is chrominance signal processing circuit, which converts video signal in RGB signal, and #24 is synchronization deflection circuit. #25 is teletext signal processing circuit with the page memory function. #26 is the second power source, which constantly supplies tuner #20, intermediate frequency processing circuit #21 and teletext signal processing circuit. #27 is the first power source, which supplies the sound signal processing circuit #22, chrominance signal processing circuit #23 and synchronization deflection circuit #24 according to the decision of operator. Power source structure titled in graph 2, supplies all circuits according to the decision of operator, nevertheless, it is possible to immediately display the desired page by means of storing the latest data to the page memory contents during the functioning of the teletext signal processing circuit #25, which we can see in the structure of graph 3.

An example of the structure of the first power source #26 and the second power source #27 is shown in graph 4. Home power source AC100V is converted into DC voltage by AC-DC converter #30. In the teletext receiving circuit, second power source, which is to always supply a power source, consists of fly-back converter #33 and regulator #36,37. Fly-back converter #33 constantly produces the voltage of 5V and 30V, using the AC-DC converter #30 output voltage, and provides the balanced supply of every circuit by means of regulator #36, 37. 5V are required for the teletext

signal digital processing circuit, intermediate frequency processing circuit and tuner. 30V are required for tuner. The first power source consists of power source switch #31, fly-back converter #32, and regulator #34, 35. When the power source switch is ON, Fly-back transformer #32 produces the voltage of 14V and 115V, using the AC-DC converter #30 output voltage, and provides the balanced supply of every circuit by means of regulator #34, 35. 14V are required for sound signal circuit and chrominance processing circuit. 115V are required for synchronization deflection circuit and Brown tube.

(Results of the invention)

As it was mentioned above, the titled invention, equipped with second power source, provides the constant functioning of the teletext signal processing circuit and is programmed to store the latest data into the page memory, which is definitely convenient, because it enables the operator to immediately recall the desired page of the desired program just turning on the first power source,

4.A short description of the graphs

Graph 1 is conventional TELETEXT SIGNAL PROCESSING CIRCUIT:

Graph 2 is conventional COLOUR TELEVISION WITH TELETEXT FUNCTION BLOCK and the LINE OF POWER SUPPLY.

Graph 3 is titled inventions' COLOUR TELEVISION WITH TELETEXT FUNCTION BLOCK and the LINE OF POWER SUPPLY.

Graph 4 is FIRST POWER SOURCE and SECOND POWER SOURCE BLOCK.

1. Wave converting circuit
2. Synchronization reproducing circuit
3. Code selecting circuit
4. Program ROM
5. Operational ROM
6. Buffer memory
7. Error correction circuit
8. Page memory
9. 8-bit CPU
10. Display control circuit
11. Tuner

Intermediate frequency processing circuit

13. Sound signal processing circuit

14 Chrominance signal processing circuit

15. Synchronization deflection circuit

16. Teletext signal processing circuit

19. Power source

18. Speaker

12 CRT

Tuner

22. Intermediate frequency processing circuit

23. Sound signal processing circuit

24. Chrominance signal processing circuit

Synchronization deflection circuit

25. Teletext signal processing circuit

26 First power source

27 Second power source

28. Speaker

29 CRT

30 AC-DC converter

32 Power switch

Fly-back converter

33. Fly-back converter

34 Regulator

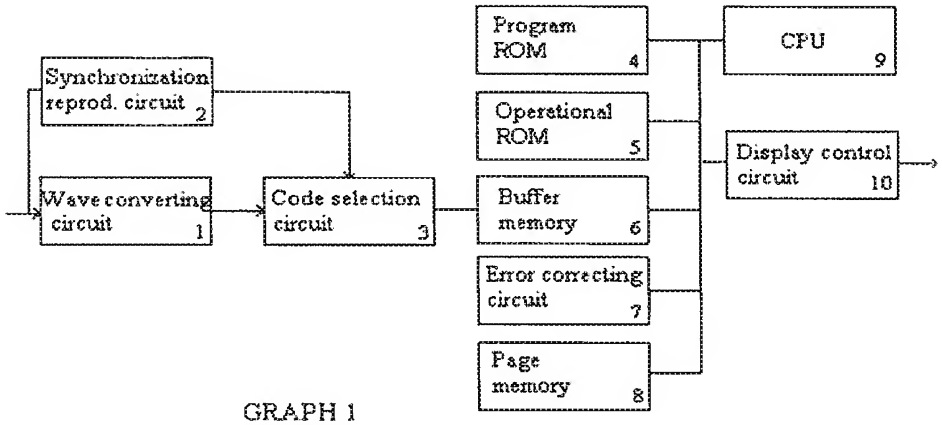
35 Regulator

36. Regulator

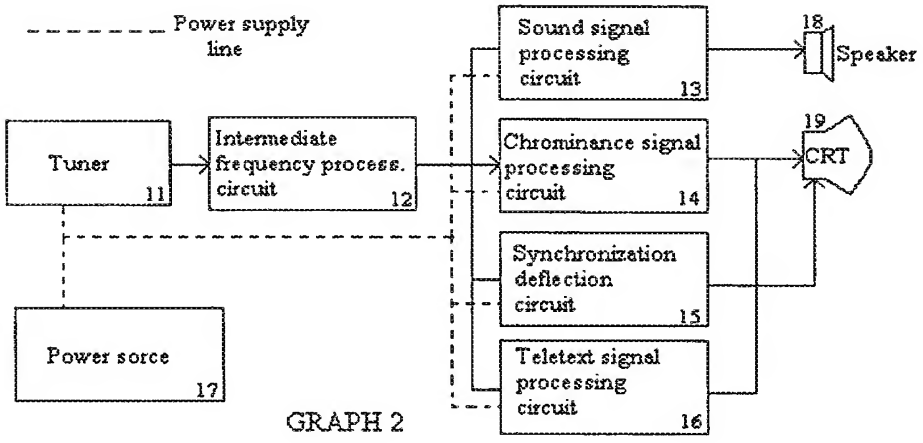
37. Regulator

Applicant: SEIKO EPSON CORP

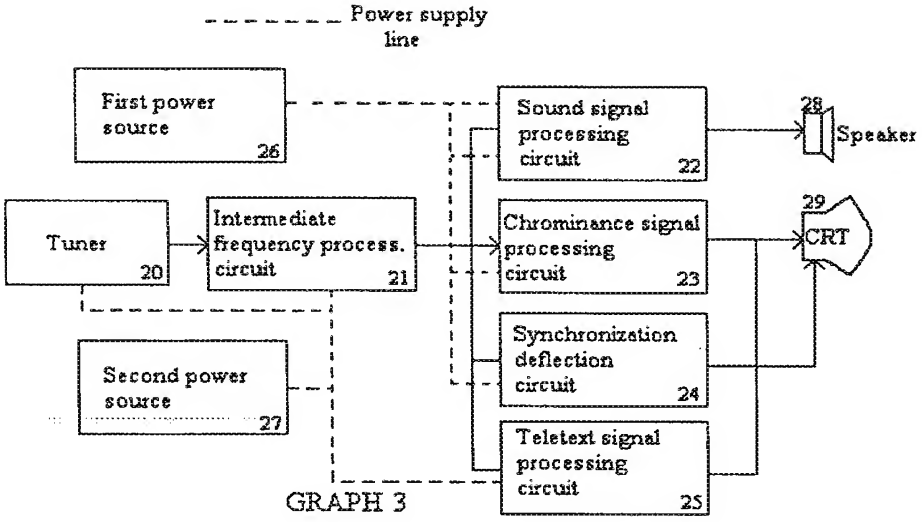
Representative agent: Mogami Tsutome



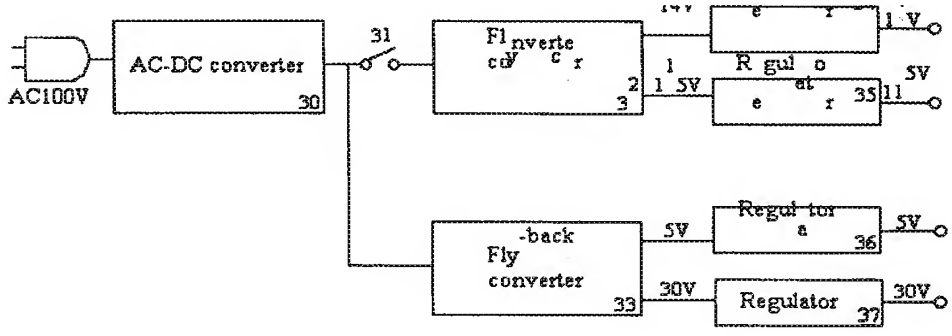
GRAPH 1



GRAPH 2



GRAPH 3



GRAPH 4

APPLICATION REVISION:

4.06.1993 Patent Office Secretariat

1. General matter

1987 Patent Pending number 224415

2. Invention name

Colour television with teletext receiving function

3. Reviser

General matter relations Applicant

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5. Increased number of inventions according to the revision

0

6. Revision target

Detailed specification (patent required field, detailed description of the invention)

7. Revision content

Attached below

APPLICATION REVISION

1. Patent required field revised in attach

2. Specification page 2 line 25 – page 2 line 30

"The titled invention ~ during the time of displaying."

Will be revised as given below:

"The peculiar features of titled invention in the COLOR TELEVISION WITH TELETEXT RECEIVING FUNCTION are the first power source, which supplies the sound signal processing circuit and display device, including the chrominance processing circuit, during the time of displaying, and the second power source, which constantly supplies the teletext receiving device including teletext signal processing circuit, tuner and intermediate frequency circuit."

3. Specification page 2 line 29 – page 2 line 331

"As it was mentioned above ~ into the page memory,..."

Will be revised as given below:

"As it was mentioned above, the peculiar features of titled invention in the COLOR TELEVISION WITH TELETEXT RECEIVING FUNCTION are the first power source, which supplies the sound signal processing circuit and display device, including the chrominance processing circuit, during the time of displaying, and the second power source, which constantly supplies the teletext receiving device including teletext signal processing circuit, tuner and intermediate frequency circuit..."

Representative: Suzuki Kisaburo

Patent required field

(1) a) within the Colour television with teletext receiving function,

b) the first power source to supply the power source of sound signal processing circuit and screen display, including chrominance processing circuit, during the time of displaying and,

c) the second power source, which constantly supplies the power source of teletext receiving device including teletext signal processing circuit, tuner and intermediate frequency circuit